

Title (en)

Optical coherence tomography assisted surgical apparatus

Title (de)

Mit optischer Kohärenz-Tomographie gesteuerter chirurgischer Apparat

Title (fr)

Appareil chirurgical assisté par tomographie de cohérence optique

Publication

EP 0697611 A3 19960515 (EN)

Application

EP 95109894 A 19950624

Priority

- US 29243394 A 19940818
- US 40424495 A 19950315

Abstract (en)

[origin: EP0697611A2] Ophthalmologic surgical microscope which is combined internally with an optical coherence tomography ("OCT") apparatus wherein auto-focusing is provided by driving a motorized internal focusing lens of the ophthalmologic surgical microscope with a signal output from the OCT apparatus. An embodiment of the inventive ophthalmologic surgical microscope includes: (a) an optical coherence tomography ("OCT") apparatus; (b) a beamcombiner for internally coupling output from the OCT apparatus into the ophthalmologic surgical microscope; and (c) a motor for moving an internal focusing lens of the ophthalmologic surgical microscope in response to a signal from the OCT apparatus, whereby the ophthalmologic surgical microscope is auto-focused. <MATH>

IPC 1-7

G02B 21/24; A61B 3/107

IPC 8 full level

A61F 9/007 (2006.01); **A61B 3/107** (2006.01); **A61F 9/008** (2006.01); **A61F 9/01** (2006.01); **G01B 9/02** (2006.01); **G02B 21/00** (2006.01); **A61B 18/20** (2006.01)

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Citation (search report)

- [A] WO 9219930 A1 19921112 - MASSACHUSETTS INST TECHNOLOGY [US], et al
- [A] US 4931630 A 19900605 - COHEN DONALD K [US], et al
- [A] WO 9316631 A1 19930902 - PHOENIX LASER SYSTEMS INC [US]
- [A] US 4795250 A 19890103 - NAKAMURA YUKITSUGU [JP], et al
- [YA] SWANSON ET AL.: "In vivo retinal imaging by optical coherence tomography", OPTICS LETTERS, vol. 18, no. 21, 1 November 1993 (1993-11-01), WASHINGTON US, pages 1864 - 1866
- [Y] THOMPSON K P ET AL: "Therapeutic and diagnostic applisalion of lasers in ophthalmology", PROCEEDINGS OF THE IEEE, vol. 80, no. 6, 1 June 1992 (1992-06-01), pages 838 - 859, XP000311051
- [A] HITZENBERGER C K: "MEASUREMENT OF CORNEAL THICKNESS BY LOW-COHERENCE INTERFEROMETRY", APPLIED OPTICS, vol. 31, no. 31, 1 November 1992 (1992-11-01), pages 6637 - 6642, XP000310747

Cited by

DE102008041284A1; EP2482113A1; EP3479753A1; WO2009120544A1; US8230866B2; EP0960609A1; DE102007005699A1; NL2001196C2; EP3858226A1; EP1952755A4; US9693905B2; US9693904B2; US9693903B2; US9750640B2; US10130510B2; CN107529981A; EP1962083A1; EP2267403A3; EP1962050A1; EP1935330A1; EP1993458A4; EP1074232A1; EP2468225A1; CN102548515A; AU2009353572B2; DE102008041284B4; EP2564764A3; US2021145636A1; US11833079B2; DE102005042436B4; DE102005042436C5; EP0947183A3; US10478072B2; EP2108347A1; DE10333558A1; EP2389093A4; EP2051051A3; CN107692960A; CN112869696A; WO0028884A1; WO2011042031A1; WO2008101960A1; WO03098312A1; WO2014011231A1; WO2017064574A1; WO2009124695A1; WO2010025098A1; EP1918755A1; EP1808120A1; EP0815801A3; EP3005938A3; US2017100285A1; WO2009100866A1; WO2016204833A1; EP0892657B1; EP1444542A4; US8556886B2; US9579017B2; US10835110B2; US7246905B2; US9951269B2; US10092178B2; US11490797B2; WO0010448A1; WO2013079214A1; WO2009091252A1; WO2011038748A1; WO2013151879A1; WO2015119892A1; US6346100B1; US6601956B1; USRE46412E; US10426548B2; US10939825B2; US11179028B2; WO2013107649A1; WO2014071221A3; WO2016041640A1; US6271914B1; US9033506B2; US9402539B2; US10117576B2; US10285568B2; DE102016203473B4; US8025402B2; US8556423B2; US8665449B2; US8899751B2; US8928890B2; US9733460B2; US10893806B2; US11490826B2; US6585722B1; US8303578B2; US9402768B2; US10076445B2; US10434011B2; US10434012B2; US8777412B2; US8821481B2; US9060712B2; US9498121B2; US9924863B2; US11344450B2; WO2005077256A1; US8593639B2; US9216110B2; US9615748B2; US9664615B2; US11452433B2; US8287126B2; US8526006B2; US8820931B2; US8908190B2; US9629528B2; US10165941B2; US10736494B2; US10945597B2; US11717153B2; EP2548528A3; EP2636383A3; EP3045138A1; EP3045139A1; EP3459486A1; EP3459487A1; EP3928751A1; EP3936092A1; EP4218645A1; US7280222B2; US8810797B2; US9949634B2; US9968261B2; US10080684B2; US10271725B2; US10772497B2; US7524062B2; US12023106B2; US6235014B1; US8864309B2; US9119563B2; US9345620B2; US9402540B2; US9844318B2; US10827919B2; US10912462B2; US8899753B2; US9560963B2; US9968245B2; US10362936B2; US10456030B2; US10631725B2; US11510567B2; US11622681B2; US11839430B2; US10874553B2; US11364147B2; US11998486B2; US12045957B2; EP1835861B1; EP2103249A1; US7837328B2; US8049873B2; EP3005938A2; US9636256B2; US9763623B2; US10058250B2; US9101294B2; US9549670B2; US9642531B2; US9706914B2; US9795301B2; US10092179B2; US10228556B2; US10441464B2; US10463254B2; DE102016203487B4; US11540945B2; US11752037B2; US12053416B2; US7631970B2; US8348429B2; US8388610B2; US9167964B2; US9706915B2; US9784681B2; US11039741B2; US11291364B2; US11559198B2; EP1428470A2

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EP 1231496 B1 20041229; ES 2180597 T3 20030216; ES 2180597 T4 20030701; ES 2233727 T3 20050616; JP 2006095318 A 20060413;
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